

COLONY OF MAURITIUS

ANNUAL REPORT

ON THE

MEDICAL & HEALTH DEPARTMENT

FOR 1917

I.—STATISTICS OF POPULATION

Population. From the returns kindly supplied by the Registrar General, the total civil population of the Colony on 31st December 1917 is estimated at 377,086, an increase over the preceding year of 431, accounted for by the difference between the surplus of births over deaths, 1,653, and excess of departures over arrivals, 1,222.

Deaths. During the year a total of 12,234 deaths were registered, 802 more than in 1916. The death-rate was 32.5 per thousand of the population against 30.4 o/oo of the year before. The following statement shows the district death-rates and the average rates for the last 5 years :—

District	1913	1914	1915	1916	1917	Mean o/oo
Port Louis ...	46.2	39.9	41.0	38.7	44.4	42.1
Pamplemousses ...	40.3	36.3	40.9	33.9	41.7	38.6
Riv. du Rempart ...	34.6	26.9	29.2	24.5	28.4	28.7
Flacq ...	39.6	34.6	34.4	33.5	30.3	34.5
Grand Port ...	35.6	33.4	37.5	32.3	30.6	34.4
Savanne ...	30.9	30.0	35.9	28.8	30.6	31.2
Plaines Wilhems ...	26.9	25.1	27.6	22.8	26.4	25.7
Moka ...	29.8	32.1	33.2	28.2	29.5	30.6
Black River ...	38.2	42.4	40.1	37.7	35.1	38.7
Whole Colony ...	35.5	32.5	34.8	30.4	32.5	33.1

Port Louis and Plaines Wilhems show the highest and lowest death-rates respectively. Comparison with the rates for the previous year is against all the districts except Flacq, Grand Port and Black River where they stand lower and also below the mean figures.

The general death-rate, though higher than in 1916, is below the 5-year average.

Malaria has accounted for 3,357 deaths, 27.4 o/o of total deaths against 31.5 o/o for the preceding year and 21.1 o/o for the last 5 years. Pulmonary Tuberculosis, Pneumonia, Bronchitis and Dysentery are returned for 947, 805, 695 and 717 deaths respectively, with a percentage on total deaths of 7.7, 6.5, 5.6 and 5.8 o/o against 7.2, 6.4, 4.8 and 4.9 o/o 5-year average figures.

Annexure I gives the usual details of information with respect to this part of the report.

Births. Births have shown a further rise : a total of 13,887 against 13,161 the year before, with a birth-rate of 36.9 o/oo of the population against 35.0 o/oo in 1916.

The district birth-rates and the 5-year mean rates are shown in the following statement :—

District	1913	1914	1915	1916	1917	Mean o/oo
Port Louis ...	42.6	43.3	38.3	40.2	40.0	40.9
Pamplemousses ...	37.8	40.5	31.9	34.1	37.4	36.3
Riv. du Rempart ...	43.2	43.5	38.9	38.4	40.5	40.8
Flacq ...	37.3	39.6	33.3	33.1	34.0	35.4
Grand Port ...	42.2	41.1	35.9	36.3	37.7	39.2
Savanne ...	41.5	40.1	31.8	31.3	33.0	35.5
Plaines Wilhems ...	39.2	39.9	34.9	36.1	38.1	37.6
Moka ...	45.8	42.4	33.2	30.8	34.7	37.3
Black River ...	37.9	32.6	33.0	28.8	31.8	38.7
Whole Colony ...	40.8	40.8	34.8	35.0	36.9	37.6

Rivière du Rempart continues with the highest birth-rate, the sequence being taken up by Port Louis, Plaines Wilhems, Grand Port, Pamplemousses, Moka, Flacq, Savanne and Black River.

In the case of the average rates for the last 5 years, Port Louis leads, with Rivière du Rempart, Grand Port, Black River, Plaines Wilhems, Moka, Pamplemousses, Savanne, and Flacq following.

The general rate is below the average figure.

II.—PREVALENCE OF SICKNESS AND THE RECURRENCE OF PARTICULAR DISEASES

The following statement shows in a tabular form the number of cases treated in the public hospitals and at the dispensaries during the last 5 years :—

	1913	1914	1915	1916	1917	Average
Hospital admissions ...	16,280	18,563	19,658	19,013	21,311	18,965.0
Dispensary cases ...	48,356	62,944	57,716	53,697	58,323	56,207.2
Outdoor cases ...	7,574	5,818	5,945	5,406	5,312	6,011.0
Total ...	72,210	87,325	83,319	78,116	84,946	81,183.2

Hospital outdoor cases have been fewer, but there has been a marked increase in the number of hospital admissions and of dispensary cases. The morbidity mainly from diseases other than malaria has been greater and this, coupled with the rise in the death-rate, shows that the sanitary condition of the Colony was not satisfactory during the year under review. It must however be kept in mind that the increased cost of living due to the war must have in a measure diminished the power of resistance to disease among the poorer classes, while among those who sought assistance at the public dispensaries, a certain proportion were probably people who, under pre-war conditions, would have applied to private practitioners or who called more to obtain financial assistance than medical advice.

Malaria and Hypertrophy of Spleen.—Admissions for malaria have been nearly the same as in 1916 ; 2,939 against 2,905 cases, an increase of 34.

The case mortality was 1.39 against 1.17 the year before.

In the Colony, the deaths declared as due to Malaria gave a rate of 8.9 o/oo of the population against 9.6 for the previous year and 10.3, average for the last 5 years. The corresponding rates for deaths registered under Malaria and Malarial Cachexia are 9.1, 9.9 and 10.6 o/oo.

Statement showing admissions for Malaria and Hypertrophy of the Spleen during 1917 :

Institution	Malaria	Hypertrophy of Spleen	Total
Civil Hospital ...	625	111	736
Port Louis Prison Hospital ...	57	...	57
Long Mountain „ ...	102	54	156
Poudre d'Or „ ...	143	44	187
Flacq „ ...	349	57	406
Mahebourg „ ...	172	23	195
Souillac „ ...	203	39	242
Barkly Asylum „ ...	399	69	468
Lunatic Asylum „ ...	75	...	75
Beau Bassin Prison „ ...	158	...	158
Reformatory „ ...	16	...	16
Moka „ ...	222	21	243
Total ...	2,521	418	2,939

The following is the return for the last 10 years :—

Years	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.
Admissions...	5,071	3,929	2,338	2,117	3,063	2,546	2,925	3,728	2,905	2,939

At the public dispensaries, 17,874 cases were treated, an increase of 1,866 over the total for the preceding year.

Annexure II shows the spleen-rates of children in schools for the 2 half-years of 1917.

The following is a statement of the school spleen-rates for the last 5 years :—

District	Spleen-rates				
	1913	1914	1915	1916	1917
Port Louis ...	22.3*	25.1	24.1	22.03	20.1
Pamplemousses ...	48.8	32.7	28.1	16.9	17.1
Rivière du Rempart ...	30.8	21.4	16.5	10.5	8.9
Flacq ...	43.9	33.3	28.9	24.8	20.5
Grand Port ...	28.1	23.3	20.3	18.6	16.7
Savanne ...	19.6	19.1	25.2	20.7	21.3
Black River ...	43.4	46.1	45.2	36.3	30.03
Plaines Wilhems ...	2.5	1.8	2.05	1.8	1.6
Moka ...	9.2	9.3	10.4	9.02	6.6
Whole Colony ...	20.6	18.4	17.2	14.7	13.5

Dysentery.—There was a rise in the number of admissions for dysentery ; 841 (case mortality 12.2 o/o) against 586 (case mortality 9.8 o/o) in 1916 and a 5-year average of 603.

The total number of deaths returned for dysentery was 717 against 532 the year before. The following are the figures for the last 5 years :—

1913—623.	1914—558.	1915—636.	1916—532.	1917—717.
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* Figure for 2nd half-year only. During the 1st half-year the schools were closed on account of small-pox.

COPY.

MAURITIUS.

No. 209.

Government House,

Port Louis.

3rd October, 1918.

Sir,

I have the honour to forward you herewith the Annual Report on the Medical and Health Department of this Colony for the year 1917.

2. I regret to say that the account cannot be considered a satisfactory one. A mean death rate of 33.1 per thousand is far too high for an island possessing the natural climatic conditions enjoyed by Mauritius.

3. In spite of the important and expensive works, that have been carried out during the past five years, to deal with swamps and other mosquito breeding grounds, the deaths from malarial fever still comprise 27.4 per cent. of the total mortality. It cannot be denied, however, that, in those districts where preventive measures have been thoroughly done and consistently maintained, the diminution of malarial fever has been very striking and effective. If we take the Famplemousses district, for instance, where very large sums have been spent in training the courses of streams and

The Right Honourable

in

WALTER HUME LONG, M.P.,

Secretary of State for the Colonies.

in draining swamps, the mortality from malarial fever has been reduced by more than 40 per cent., while the "spleen rate" among school children has fallen from 48 per cent. in 1913 to only 17 per cent. in 1917.

4. Unfortunately, the cost of the measures required for the suppression of malaria is enormously in excess of the estimates contained in Sir Ronald Ross's report and progress must be limited by financial considerations. In this connection I may mention that the expenditure, during the last six years, on major and minor anti-malarial works, has exceeded Rs. 885,900. Instead of diffusing efforts over wide areas and in scattered districts I am now concentrating work in those localities in which conditions are the most dangerous and where measures may be expected to have some definite and conclusive result.

Dysentery appears to be on the increase and must be ascribed not only to impure water supplies, in some parts of the island, but also, probably, to the practice of using human excreta as manure on the cane fields. Measures are being taken to limit this objectionable practice. Pneumonia, tuberculosis and nephritis also seem to be on the increase.

During

During 1917 there were 122 cases of Beri-Beri, with 16 deaths. Anxiety is being felt at the spread of this disease and the increasing incidence is, by many, ascribed to the large consumption that is now being made of Burmese rice. The price of all other qualities of rice has increased in such a measure that the poorer classes are now compelled to eat only the very cheapest grain.

Per contra, the Colony is to be congratulated on the fact that plague may be considered to have been thoroughly eliminated. The Medical Director's report includes an interesting table showing that the mortality from plague has gradually decreased from 1117 in 1899 to 7 in 1917. There has not been a case of plague for more than 20 months and vigorous measures are being maintained to prevent any reappearance of the disease.

The cost of the Hospitals and other Charitable Institutions has increased enormously during the past three years, and I am appointing a special Committee to ascertain whether, in spite of increases of expenditure due to the war, economies might not be effected.

I have etc.,

(Sd). H.Hesketh Bell.

GOVERNOR.



Enteric Fever.—81 cases were admitted ; 5 less than the previous year. 23 cases terminated fatally giving a death-rate of 28.4 o/o.

In the Island 244 cases were notified against 227 in 1916.

The distribution of the cases in the various districts is shown in the following table :—

District	January	February	March	April	May	June	July	August	September	October	November	December	Total	
													1917	1916
Port Louis...	1	6	5	...	4	5	8	2	...	3	2	1	37	27
Pamplemousses ...	1	1	2	...	1	3	...	1	...	3	1	4	17	7
Riv. du Rempart ...	1	2	4	...	2	1	...	...	...	1	1	2	14	33
Flacq ...	...	...	1	...	...	...	...	1	1	...	2	1	6	...
Grand Port ...	...	2	2	2	1	...	1	...	2	...	2	2	14	11
Savanne ...	5	2	1	2	1	...	2	5	4	4	4	2	32	48
Black River ...	...	...	...	...	1	1	...	...	...	...	...	...	2	3
Plaines Wilhems ...	7	5	7	2	13	10	4	11	7	9	4	2	81	62
Moka ...	3	3	2	4	3	5	5	3	2	4	3	4	41	36
Total ...	18	21	24	10	26	25	20	23	16	24	19	18	244	227

The disease has been more prevalent specially in Plaines Wilhems, Port Louis, Pamplemousses, Moka and Flacq, while much fewer cases are returned for Rivière du Rempart and Savanne.

Diphtheria.—There were 6 admissions with 1 death. 30 cases, of which 5 proved fatal, were notified.

Influenza.—The admissions for influenza show an increase. 1,467 against 1,106 in 1916 with a lower death-rate of 2.4 against 3.4 o/o.

The total number of deaths in the Colony was 252 against 233, the year before and an average of 220 for the last 5 years.

Pneumonia.—The number of admissions for pneumonia has been practically stationary during the last 4 years. 350, 349, 345 and 357 for 1914–1917, with death-rates of 30.6, 28.0, 33.0 and 32.7 o/o.

The mortality from this cause registered in the Island has been greater than the year before (805 deaths against 707) though not much above the 5-year average, 799.

Tuberculosis.—Admissions for Tuberculosis have increased during the year under report. 842 cases are returned against 738 the year before, with a case mortality of 21.8 against 20.05 o/o.

The following table shows the deaths in the Colony classified as under :—

Deaths due to :	1917	1916	Average for last 5 years
Pulmonary tuberculosis ..	947	799	901
Pulmonary tuberculosis and Phthisis	993	842	967
All forms of tuberculosis	1,019	867	998

Cerebro-Spinal Meningitis.—4 cases with 2 deaths were notified. Of these, 3 cases with 1 death, were admitted into hospital.

Beri-Beri.—122 cases with 16 deaths against 60 admissions with 11 deaths in 1916.

Nephritis.—732 admissions with 122 deaths against 551 cases with 110 deaths the year before.

Syphilis.—There has been a good fall in the admissions for syphilis during the year : 335 cases with 5 deaths against 438 with 6 deaths the previous year. The outdoor cases have also been less numerous, 348 against 454 cases.

Primary infection was diagnosed in 113 of the hospital admissions and 102 of the outdoor cases, against 148 and 174 in 1916.

Leprosy.—The number of leper inmates at the St. Lazare Asylum on January 1st 1917 was 72 (53 males and 19 females). During the course of the year 21 men and 1 woman were admitted ; 11 male inmates died and 13 men and 2 women were discharged. There remained 68 lepers (50 men and 18 women) in the establishment on the 31st December 1917.

Erysipelas.—36 cases admitted in the hospitals with 11 deaths. 45 cases, with 22 deaths, were notified in the Island.

Measles.—2 cases treated in hospital. No other cases were notified.

Mental Diseases.—The total number of persons certified insane in the Colony on 31st December 1917 was 766, 23 more than the previous year. The ratio of insane to total population was 1 in 491 or 20.34 per 10,000.

The number of admissions into the Lunatic Asylum during the year was 131 (78 males and 53 females). These are classified into : first admissions 70, second admissions 10, fifth admission 1, 37 readmissions from probation, and 3 readmissions from the Barkly Asylum Lunatic Branch Wards. Among those admitted on interim order 10 found not insane, on examination by the Commissioners in Lunacy, were discharged.

The principal causes to which the mental derangement is ascribed are, as usual, heredity, mental worry, alcoholism, epilepsy and gunjah smoking. The greater proportion of admissions were from Plaines Wilhems and Port Louis.

The daily average number of patients in the Asylum was 477.94 and 97 in the Branch Wards against 482.87 and 93 the year before.

The number of criminal lunatics at the Asylum on 1st January 1917 was 23 (20 males and 3 females). 7 such lunatics, all males, were admitted during the year, 4 were discharged and 1 died. The number of this class of patients left at the close of the year was 25 (23 males and 2 females).

A total of 110 inmates (76 males and 34 females) were discharged from the Lunatic Asylum. They comprised 10 found not insane, 84 improved and allowed to leave the Asylum on probation and 16 transferred to the Branch Wards at the Barkly Asylum.

One of the imbeciles in the Branch Wards was discharged on probation to the care of his relatives.

Among the patients outside the Asylum on probation, 13 (8 males and 5 females) found cured were finally discharged.

There were 29 deaths among the patients detained in the establishment giving a death-rate of 6.06 o/o against 8.28 o/o for 1916 and 6.71 o/o for the last 10 years.

The number of inmates left on 31st December 1917 was 478 (264 males and 214 females) in the Lunatic Asylum and 100 (70 males and 30 females) in the Lunatic Branch Wards.

Varicella.—19 cases were admitted in the hospitals ; they all recovered. 6 cases were notified in the Colony.

Plague.—Only 8 cases of plague were notified during the year. They were all infected in the "La Louise" area and formed the continuation of the outbreak which occurred in that locality at the end of the preceding year and which produced its last case in January 1917.

Seven of the cases proved fatal giving a death-rate of 87.5%.

Race incidence :—Indians 6, Mauritians (non-white) 2.

Sex incidence :—5 males and 3 females.

Age incidence :—1—5 years, 2 cases ; 11—20 years, 2 cases ; 21—40 years, 4 cases.

The following statement shows the number of cases, deaths and death-rates since the outbreak of plague in the Colony :—

<i>Years</i>	<i>Cases</i>	<i>Deaths</i>	<i>Death-rate</i>
—	—	—	—
			%
1899	1,416	1,117	78.9
1900	796	593	74.5
1901	1,093	805	73.7
1902	506	384	76.3
1903	1,395	1,035	74.2
1904	568	449	79.0
1905	308	251	81.5
1906	434	344	79.3
1907	224	178	79.5
1908	167	137	82.0
1909	457	333	72.9
1910	731	553	75.6
1911	173	131	75.7
1912	656	541	82.5
1913	313	261	83.4
1914	125	111	88.8
1915	33	25	75.8
1916	22	15	68.2
1917	8	7	87.5

Type of disease.—Bubonic 5 with 4 deaths ; Septicæmic 3, all fatal.

Disinfection, &c.,—The usual measures of precaution and disinfection were taken in connection with the occurrence of the cases, and special attention was paid to the destruction of rats. Prophylactic work was continued in the area which has been kept under special supervision.

In Port Louis preventive disinfection and the campaign of rat destruction have been attended to with unrelenting care and another year adds itself to the time since which no case of plague has been recorded, April 1915. A total of 2,699 disinfections were carried out during which 523 dead animals (rats, mice and cats) were found. The number of dead rats gathered as a result of fumigation by the two portable Clayton apparatuses now available and by sulphur burners was 1,561. Claytonisation of grain stores, shops, gunny stores, &c., was carried out on 197 occasions.

A total number of 144,711 rats were destroyed in the Colony of which 53,626 in Port Louis.

Microscopical examination was made of 62.3 % of the rodents caught in the town and the infection rate was 0.15% against 0.4% the year before.

Lazarets and treatment.—3 of the cases were seen after death ; 2 *in extremis* left at home where they died shortly after. Two were removed to Grand River North West Lazaret where one recovered. The eighth case was on a contact admitted on 30.12.16 who died.

III.—VACCINATION

A total of 10,972 children were vaccinated during the year at the public vaccine stations. The operation was successful in 10,887 instances, failed in 54 cases while the result could not be ascertained in the remaining 31 children vaccinated.

The proportion of vaccinations to total births was 79.0%.

IV.—SANITARY ADMINISTRATION

Annexure III is the usual report submitted by the Chief Sanitary Officer on this matter. The work done by the Sanitary Engineer before his transfer from this Department is referred to in the report of the Director of Public Works.

V.—HOSPITALS AND ASYLUMS

The following table gives a summary of the work done at the establishments during the year :—

Hospital	Remain- ing on 31.12.16	Fresh Cases		Deaths	Remain- ing on 31.12.17	No. of Beds
		Indoor	Outdoor			
Civil	188	6,595	427	384	194	290
Port Louis Prison ...	7	254	656	3	...	16
Long Mountain ...	13	1,487	136	107	23	35
Poudre d'Or ...	31	1,586	..	57	19	68
Flacq	23	1,543	64	93	11	82
Mahebourg ...	22	1,581	197	94	35	106
Souillac	41	1,662	61	81	39	78
Barkly Asylum ...	60	3,389	29	241	120	219
Lunatic Asylum ...	34	410	1,269	29	30	33
Beau Bassin Prison	22	585	2,412	21	29	32
Reformatory ...	...	44	25	...	4	10
Moka	43	2,175	36	74	39	67
Total ...	484	21,311	5,312	1,184	543	1,036

VI.—MISCELLANEOUS

Port & Quarantine.—192 ships called at our port during the year (153 steamers and 39 sailing ships). Pratique was granted forthwith to 168 (131 steamers and 37 sailing vessels). 9, although entitled to pratique, remained in quarantine. 14 steamers and 1 sailing ship were kept in temporary quarantine for purposes of disinfection.

Disinfection of grain cargo was carried out afloat on 17 occasions. At the Harbour Disinfecting Station, the steam stoves were worked 8 times for the disinfection of effects of incoming and outgoing passengers.

Anti-malarial Works.—The Sanitary Wardens have as heretofore attended to the Minor works. Major works were carried out by the Sanitary Warden North in connection with Hermitage marshes, Rivière du Rempart district; Rivulets Pont Blanc and Grande Barbe and Rivière Françoise in Flacq district, and Rivulets Pitot and Saint Louis in Moka district.

LABORATORY WORK.

Chemical and Medico-legal.—The Government Analyst received 251 articles of evidence or samples for examination and report—an increase of 102 over the previous year.

They were as follows :—

Murder 7 cases ... 25 articles	Flour 5 cases ... 9 samples
Poisoning 6 „ ... 17 „	Æther 1 case ... 1 sample
Rape 10 „ ... 64 „	Tea 1 „ ... 2 samples
Bestiality 1 case ... 3 „	Cocoa 1 „ ... 1 sample
Wounds and Blows ... 1 „ ... 4 „	Absinth 1 „ ... 3 samples
Infanticide 1 „ ... 45 „	Biscuits 1 „ ... 5 „
Identification of remains 1 „ ... 8 „	Turpentine .. 1 „ ... 2 „
Milk 38 cases ... 52 samples	Shellac 1 „ ... 2 „
Bread 3 „ ... 6 „	Pollution of river... 1 „ ... 2 „

The articles and samples were referred by the following departments :—

Police 168 articles	Customs Department ... 3 samples
Medical & Health Department... 77 samples	Revenue Department ... 3 „

In addition 3 hydrometers were tested for the Wireless Telegraph Station and a certificate issued.

Bacteriological and clinical.—The following is a summary of the work done :—

Microscopical examination for malaria, filariasis, diphtheria, plague, affections of the genito-urinary passages, cerebro-spinal meningitis, syphilis, tuberculosis, dysentery, diarrhoea and other pathological conditions 392	Wasserman's reaction 5
Bacteriological examinations involving artificial cultivation 266	Malta fever agglutination test... .. 1
Widal's test for typhoid and paratyphoid 213	Vaccines (autogenous)—Typhoid ... 41
	Staphylococcus 16, Streptococcus 2, Bac-colicommunis 9, Bac-coli communior 4... 31
	Differential leucocyte counts ... 63
	Blood counts 3
	Estimation of hæmoglobin 1
	Examination of urine 130

In addition, samples of new growths were examined showing : Simple adenoma 1, Squamous epithelioma 2, vesical polypus 1 and dermoid cyst 1.

A constant supply of fresh anti-typhoid vaccine for prophylactic purposes was kept up during the year ; 736 persons were vaccinated against 168 in 1916.

Research work was made in connection with the following :—

The work of the previous year on the parasites of local birds was continued. In addition to the hæmoparasites already found, the fact was disclosed that cage birds are liable to a fatal disease due to a pasteurella resembling the organism of fowl cholera.

A filarial disease of dogs, various poultry diseases (intestinal coccidiasis, helminthiasis and fowl cholera), and Piroplasma bigeminum in certain breeds of cattle were also investigated into.

Legislation, Departmental changes.—Regulations were published (1) to protect certain rivers from pollution by washing, (2) to extend to the town of Curepipe, where a market has been opened by the Board, the prohibition to hawk certain articles of food within a kilometre from public markets, and (3) to amend the rules with respect to students and junior warders in the public hospitals.

The Building Branch of this Department was transferred in November to the Public Works Department. In view of this an Ordinance was passed amending the definition of "Sanitary Engineer" in the Building Law.

Dr. Aubergé, who was acting as Dispensary Medical Officer, Port Louis, relinquished his appointment in April and was replaced by Dr. Delaitre.

Dr. Leclézio was appointed to succeed Dr. Clarenc (retired) as Dispensary Medical Officer, Saint Pierre.

3rd July, 1918.

F. J. R. MOMPLÉ,
Acting Director, Medical and Health Department.

ANNEXURE I

Statement of deaths from principal causes during 1917

Obtained from Civil Status returns

Diseases	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Plague ...	9	...	...	...	...	...	...	...	...	...	...	...	9
Enteric fever ...	3	6	5	6	4	4	4	3	2	4	2	2	45
Malarial fever...	242	251	290	324	300	344	311	280	230	224	249	312	3,357
„ Cachexia ...	1	5	7	2	10	11	4	12	11	18	12	6	99
Dysentery ...	29	32	59	77	74	87	86	86	57	50	36	44	717
Influenza ...	4	12	5	9	18	37	25	16	29	20	28	49	252
Pneumonia ...	36	50	42	40	52	91	63	57	66	66	95	147	805
Bronchitis ...	35	30	30	37	41	71	49	58	44	53	105	142	695
Phthisis ...	8	1	3	2	12	2	1	2	4	5	1	5	46
Tuberculosis ...	63	76	68	62	68	76	97	88	85	93	76	95	947
Erysipelas ...	1	2	5	2	3	1	2	3	...	1	...	2	22
Diphtheria ...	1	1	...	...	...	...	1	...	...	...	1	1	5
Beri-Beri ...	2	4	5	8	4	8	4	3	2	2	1	9	52

ANNEXURE II (A)

Statement showing the Spleen-rates of children in Schools

Half-year ended 30th June 1917

District	Total children on roll	Children examined	Spleens				Total with spleen	Spleen-rate	Average spleen
			1	3	6	9			
Port Louis ...	5,729	3,201	2,507	418	159	117	694	21.68	1.80
Pamplemousses ...	1,671	980	796	92	58	34	184	18.77	1.76
Riv. du Rempart..	1,466	905	834	33	20	18	71	7.8	1.34
Flacq ...	2,289	1,567	1,233	181	81	72	334	21.3	1.86
Grand Port ...	2,812	1,670	1,348	266	40	16	322	19.28	1.51
Savanne ...	1,461	843	639	166	24	14	204	24.19	1.67
Black River ...	628	455	313	66	39	37	142	31.2	2.37
Plaines Wilhems..	5,920	3,928	3,859	56	8	5	69	1.75	1.04
Moka ...	1,563	1,030	954	43	21	12	76	7.4	1.28
Total ...	23,539	14,579	12,483	1,321	450	325	2,096	14.37	1.51

ANNEXURE II (B)

Statement showing the Spleen-rates of children in Schools

Half-year ended 31st December 1917

District	Total children on roll	Children examined	Spleens				Total with spleen	Spleen-rate	Average spleen
			1	3	6	9			
Port Louis ...	5,625	3,871	3,138	468	149	116	733	18.93	1.67
Pamplemousses ...	1,592	1,031	871	88	38	34	160	15.52	1.62
Riv. du Rempart..	1,335	943	848	51	18	26	95	10.07	1.42
Flacq ...	2,139	1,628	1,306	181	81	60	322	19.78	1.77
Grand Port ...	2,988	1,622	1,393	195	27	7	229	14.11	1.35
Savanne...	1,433	948	769	149	26	4	179	18.88	1.48
Black River ...	659	364	260	50	26	28	104	28.57	2.24
Plaines Wilhems..	6,028	3,868	3,807	55	5	1	61	1.57	1.03
Moka ...	1,628	977	920	36	13	8	57	5.83	1.21
Total ...	23,427	15,252	13,312	1,273	383	284	1,940	12.71	1.44

NOTE :—The figures 3, 6, 9, are used to indicate *small*, *medium* and *great* enlargements of the spleen, as multiples of the normal spleen taken as unity and shown under figure 1.

Average spleen is obtained by adding together the children with no enlargement, 3 times the children with small enlargement, 6 times and 9 times those with medium and great enlargements and dividing by the total numbers examined.

ANEXURE III**Sanitary condition of the Island**

I have the honour to submit the following annual report of the Island during the year 1917, which is based on the several reports received from the various local Authorities.

The full statements showing the duties performed and the contraventions detected by the staff of the Sanitary Officers are herewith submitted.

The general description of the work done in connection with Sanitation is as follows :—

PORT LOUIS.—Private premises and lodging houses were visited by the Sanitary Officers on 11,676 occasions during the year. Inspections of shops, markets, bake-houses, slaughter-houses and butchers' shops numbered 1,721 and special enquiries and other duties, including attendance at cremations and exhumations, amounted to 1,234.

The milk trade was controlled on 1,686 occasions. The number of cowsheds inspected during the year amounted to 810. These inspections were, for the most part, made in the extra urban parts of the town.

The stables and pigsties received 1,428 visits and the manner in which the night soil service was performed was checked on 535 occasions.

Government establishments, public and private gratuitous latrines, noxious factories, water-courses, docks and the seashores were subject to 1,195 inspections.

The Staff of Disinfectors was engaged on Quarantine duty for 13 days and the Sanitary Inspectors and Guards had to be in attendance at the Law Courts on 118 occasions.

The waste-lands in the town and its suburbs whose owners are unknown were cleared of rank vegetation over an extent of 481,587 square yards. The destruction of cactus, during the year under review, amounted to 25 acres.

Dhobies' workshops were visited 309 times and 980 lighters in the Harbour were inspected during the year.

The public sales were controlled on 41 occasions and only one article of food found unfit for human consumption was seized.

The total number of contraventions of the Sanitary enactments in force, detected during the year, was 686 and the fines collected on that account amounted to Rs. 1,077.51.

During the year under review 1,950 notices and requests were issued by the Sanitary Staff for the abatement of nuisances on private premises. Of these 115 had not been complied with at the close of the year.

765 certificates under the hand of the Sanitary Authority were transmitted to His Worship the Mayor of Port Louis for nuisances under the control of the Municipality and of that number only 583 were attended to by the Corporation.

Public nuisances due to defective gully-holes, regards and broken water-pipes continued to be numerous and, in many instances, the nuisances continued for a long time before they were remedied.

The condition of the bed and banks of the various streams of the town is still defective in many respects. The nuisances caused by floods in the form of ponds and puddles along the course of the streams, create during the rain season favourable breeding places for mosquitoes. These nuisances, especially in view of the conditions they offer to the development and spread of malaria in Port Louis, must again be mentioned.

The scavenging service was performed in a more regular manner during the year. I am glad to say that the streets in the outlying parts of the town have also received better attention. The scavenging service of the extra urban areas has been attended to by means of a gang of labourers and 2 donkey carts employed by this Department, extra assistance being occasionally given when required. In certain parts (Roche Bois and Nicolay Road) a system of cantonniers has been established. If this new method continues to give satisfaction, it will, after further consideration, be gradually applied to the other sections.

The present method of water distribution in Port Louis has, as yet, received no attention on the part of the Municipality and until it is modified, no amelioration in the constant waste of water can be contemplated. It is also to be hoped that this all important question of the purification of the water-supply of the town will soon receive the serious attention of the Municipal Corporation; for, until something is done in that direction, no improvement in the incidence of the water-borne diseases in Port Louis can be expected.

597 orders were served under Ordinance No. 21 of 1900 by the Sanitary Authority for the removal of nuisances and the improvement of dwelling houses, shops and stores in connection with plague preventive measures. A large proportion, viz. : 497 of these orders were complied with during the year. In many instances, delay sufficiently long had to be granted to owners of premises who, through poverty or being temporarily in embarrassed pecuniary circumstances, owing to difficulties created by the war, were not able to comply with the order within the delay prescribed to them.

Besides the public nuisances above referred to, 11 were brought to the notice of the Hon. the Director of Public Works, 6 to that of the Hon. the General Manager of Railways and 6 to that of the Director of Forests.

The application of the Swine Destruction Ordinance resulted in the shooting of 92 pigs by the Police in the extra urban areas of the town.

THE WATER CARRIAGE SYSTEM.—13 premises and one public latrine were connected with the drainage system. There has been no further extension of the water carriage system in Port Louis during the year under review.

PLAGUE.—No case was detected in Port Louis during the year. The last case recorded was on the 6th of April 1915. 8 cases were detected in the country districts, and classified as follows :—7 in Plaines Wilhems and 1 at Palma in Black River district. Of these, 7 died giving a death-rate

of 87.5%. The other districts remained free. The last case detected in the country districts was on the 27th of January 1917. Rigorous preventive measures are still being carried out by the Sanitary Wardens in the above mentioned localities.

DISINFECTION.—2,699 premises were disinfected in Port Louis; 46 disinfections were carried out on account of plague infected rats, 66 for diseases other than plague and 2,587 in premises situated in the infected localities.

FUMIGATION.—678 premises were fumigated by means of Sulphur dioxide, 197 by the two Clayton apparatuses and 481 by the ordinary Sulphur burners. The number of rats destroyed by this process amounted to 1,561.

DESTRUCTION OF RODENTS.—The number of rodents destroyed was 53,626 in Port Louis and 91,085 in the country districts. The number of traps placed in the different parts of the town including its suburbs amounted to 5,800.

GRAVID FEMALES.—512 gravid females were destroyed in Port Louis and the number of young ones found in them, amounted to 2,851.

RAT INFECTION.—33,388 rodents were microscopically examined in Port Louis during the year. Of these, 51 were found plague infected, giving a rate of infection among rodents of 0.15 o/o.

The following tabular statement shows the yearly decrease in the number of plague infected rodents caught and examined in Port Louis during the years 1915, 1916 and 1917.

	1915	1916	1917
Number of infected rodents ...	480	138	51

ANTI-MALARIAL WORKS.—The following anti-malarial works in connection with the maintenance of the rivers, streams and drains in the extra urban areas of Port Louis were performed during the year :—

1. Lataniers River, maintenance on a length of	...	153,216 × 4 feet
2. Terre Rouge River	...	133,000 × 4 "
3. Cassis Stream	...	43,200 × 4 "
4. Vallée Pitot, Catch water drain	...	52,700 × 10 "
5. Signal Mountain	...	6,500 × 17 "
6. Tranquebar Stream	...	4,240 × 4 "
7. La Paix Stream, filling up hollows in several places along the banks.		
8. Cassis, upkeep of paved and unpaved drains	...	1,401,024 feet
Ste. Croix	...	123,300 "
Roche Bois	...	991,200 "
Tranquebar	...	590,400 "

41 requests, 23 notices, 45 schedules and 2 statements of nuisances were issued by the Staff for the abatement of nuisances in connection with malaria during the year. 7 contraventions were taken and the amount of fines collected on that account, amounted to Rs. 6.

RURAL DISTRICTS

The number of contraventions detected by the Sanitary Officers in the several sanitary sections was 3,017 leading to 1,845 prosecutions with a total of Rs. 7,296.96 fines. Notices and Orders under Ordinance No. 32 of 1894-95 to the number of 18,035 were issued for the abatement of nuisances. Of these 3,735 were not complied with, resulting in 2,221 prosecutions and a total of Rs. 2,260.95 fines.

The cemeteries and markets produced revenue to the amount of Rs. 21,385.50.

The number of animals killed in the five public slaughter-houses was 4,365 and the fees collected amounted to Rs. 1,901.50.

The general upkeep of the estate camps, excepting a few well managed ones, has not been as satisfactory as it should; and, on several occasions, action had to be taken against the Managers of the estates.

The scavenging service was performed in a very unsatisfactory manner in the districts of Pamplémousses, Rivière du Rempart, Flacq, Moka, Plaines Wilhems (Phoenix), Savanne (Souillac) and the fines imposed on the different contractors during the year amounted to Rs. 2,002.80.

Two manure factories have been authorised during the year, namely: 1 at Riche Terre, Pamplémousses district and 1 at Plaisance, Plaines Wilhems.

Anti-malarial measures on the lines laid down by Professor Ross were continued. The Major works were carried out by the Sanitary Engineer, and the Minor works under the supervision of the Sanitary Wardens. Mr. Naz, the Sanitary Engineer, was transferred from the Medical to the Public Works Department on the 1st of November 1917 and since that time the Major works, in connection with malaria, have been carried out by the Director of Public Works. The department has continued to distribute quinine from house to house in the more malarious localities. Seven travelling dispensers, provided with bicycle each, have been appointed for that purpose. They are posted as follows :—

- 1 for Moka district,
- 2 „ Savanne and Grand Port,
- 2 „ Pamplémousses, Rivière du Rempart and Flacq,
- 1 „ Black River,
- 1 „ Port Louis (extra urban areas).

The measure afforded relief to many suffering from malaria, especially in localities where the inhabitants are poor and the drug not easily obtainable.

28th May, 1918.

F. L. KEISLER,
Acting Chief Sanitary Officer.

